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United States Patent [19]

Shima et al.

[11] **Patent Number:** **5,489,924**[45] **Date of Patent:** **Feb. 6, 1996**[54] **COMPUTER AND DISPLAY APPARATUS
WITH INPUT FUNCTION**[75] Inventors: **Hisashi Shima**; **Atsuo Yagihashi**, both
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Corporation**, Armonk, N.Y.[21] Appl. No.: **352,284**[22] Filed: **Dec. 8, 1994****Related U.S. Application Data**

[63] Continuation of Ser. No. 993,214, Dec. 18, 1992, abandoned.

[30] **Foreign Application Priority Data**

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345/179**[56] **References Cited****U.S. PATENT DOCUMENTS**

4,859,092 8/1989 Makita 400/83

4,995,579	2/1991	Kitamura	248/919
5,179,447	1/1993	Lain	248/917
5,200,913	4/1993	Hawkins et al.	345/169
5,268,817	12/1993	Miyagawa et al.	361/729

FOREIGN PATENT DOCUMENTS

63-39731	3/1988	Japan	
0090310	3/1990	Japan	G06F 1/16
0254514	10/1990	Japan	G06F 1/16
3278212	12/1991	Japan	G06F 1/16

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ABSTRACT

A computer or a display apparatus with an input function which is of simple construction and has high operability for touch input or pen input. A system body, a cover unit having a display panel with an input function on one side, and connection means such as a rotatable arm, which is rotatably connected to the cover unit and to the system body at a different portion from a portion at which said cover unit is conventionally connected, so as to allow the cover unit to be placed on the system body in a position in which the display panel mounted on the cover unit is placed face up or face down. The cover unit can be placed upside down on the system body without sliding of the cover unit with respect to the system body.

32 Claims, 8 Drawing Sheets